DNV·GL

Certificate No:
TAA0000039

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Direct Acting Control Valve

with type designation(s)
NFSV-01

Issued to
Nabtesco Corporation
Kobe Hyogo Pref, Japan

is found to comply with
Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Location classes:

Temperature	**A**
Humidity	**B**
Vibration	**B**
EMC	**A**
Enclosure	**A**

This Certificate is valid until **2019-06-30**.

Issued at **Busan** on **2015-09-03**

for **DNV GL**

DNV GL local station: **Kobe**

Approval Engineer: **Sang Bum Park**

Baeg Soon Choi
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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Job Id: **262.1-010938-3**
Certificate No: **TAA0000039**

Place of manufacture

1. Japan
   Nabtesco Corporation Marine Control Systems Company
   1617-1, Fukuyoshidai 1-chome,
   Nishi-ku, Kobe, Hyogo 651-2413, Japan

2. Nabtesco Marine Machinery(Shanghai) Co., Ltd
   Building No. 5, Lane 777, Yuan Dong Road, Fengxian Country,
   Shanghai, 201400, China

Product description

NFSV-01 linear servo valve is designed to control hydraulic servo valve, which controls fuel injection and exhaust valve actuation for electric controlled engine.

Name	Type	Rated flow
Linear Servo Valve	NFSV-01-12.5	12.5 I/min.
	NFSV-01-25	25 I/min.
	NFSV-01-40	40 I/min.

Approval Conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.

Type Approval documentation

Tests carried out

Applicable tests according to Standard for Certification No. 2.4, April 2006.

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed at least every second year and at renewal of this certificate.

END OF CERTIFICATE